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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,388	03/25/2004	Steven T. Fink	250826US6YA	5547

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EXAMINER	
ZERVIGON, RUDY	
ART UNIT	**PAPER NUMBER**
1763	

DATE MAILED: 01/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/808,388	FINK, STEVEN T.	
	Examiner	Art Unit	
	Rudy Zervigon	1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) *13-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/17/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-12 in the reply filed on October 24, 2005 is acknowledged. The traversal is on the grounds that "the claims of the present application would have to searched in a handful of subclasses". This is not found persuasive because Applicant's "handful of subclasses" is not as restrictive as Applicant assumes. Indeed, the Examiner's search, if searching the plural inventions, would have to extend into different classes entirely which significantly burdens the Examiner's examination as defined under MPEP 803.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes, Michael et al. (US 20020150519 A1) in view of Halder; Werner et al (US 5845898 A). Barnes teaches a plasma processing device (Figure 1; [0010]-[0017]) comprising: an inject plate (1; Figure 1; [0010]-[0017]); an upper electrode (7; Figure 1; [0010]-[0017]) – claim 1

Barnes further teaches favorable materials for use in plasma processing environments including aluminum [0012], ceramic [0013], and quartz [0013].

Barnes does not teach:

i. a hybrid ball-lock device removably securing Barne's inject plate (1; Figure 1; [0010]-[0017]) to Barne's upper electrode (7; Figure 1; [0010]-[0017]) – claim 1

ii. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1, wherein the hybrid ball-lock device comprises an actuating hybrid ball-lock device, as claimed by claim 2

iii. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1, wherein the hybrid ball lock device comprises an actuating hybrid spring-plunger device, as claimed by claim 3

iv. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1 wherein the hybrid ball-lock device comprises a ceramic head, as claimed by claim 4

v. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1 wherein the hybrid ball-lock device comprises a quartz head, as claimed by claim 6

vi. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1 wherein the hybrid ball-lock device or threaded shaft is removably connected to a release button, as claimed by claim 11

vii. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1, wherein the hybrid ball-lock device comprises at least one retaining ball, as claimed by claim 12

Halder teaches a ball-lock device (Figures 1,2; column 3; lines 1-40) including:

viii. A hybrid ball-lock device (Figures 1,2; column 3; lines 1-40) comprises an actuating hybrid ball-lock device (column 3, lines 14-15), as claimed by claim 2

ix. a hybrid ball lock device (Figures 1,2; column 3; lines 1-40) comprises an actuating hybrid spring-plunger device (8, 2; Figures 1,2; column 3; lines 14-15), as claimed by claim 3

x. a hybrid ball-lock device (Figures 1,2; column 3; lines 1-40) or threaded shaft (3; Figures 1,2; column 3; lines 1-40) is removably connected to a release button (15; Figures 1,2; column 3; lines 21-31), as claimed by claim 11

xi. a hybrid ball-lock device (Figures 1,2; column 3; lines 1-40) comprises at least one retaining ball (7,4; Figures 1,2; column 3; lines 14-20), as claimed by claim 12

It would have been obvious to one of ordinary skill in the art at the time the invention was made to replace Barnes' securing means (18; Figure 1) with Halder's ball-lock device (Figures 1,2; column 3; lines 1-40), made of process-compliant materials as taught by Barnes.

Motivation to replace Barnes' securing means with Halder's ball-lock device, made of process-compliant materials is for "releasably securing two objects" as taught by Halder (column 1; lines 4-6) with insulating materials as taught by Barnes ([0013]).

4. Claims 5, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes, Michael et al. (US 20020150519 A1) and Halder; Werner et al (US 5845898 A) in view of Dornfest; Charles N. et al. (US 5680013 A). Barnes and Halder are discussed above

Barnes and Halder do not teach:

xii. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1 wherein the hybrid ball-lock device comprises a silicon head, as claimed by claim 5

xiii. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1 wherein the hybrid ball-lock devices comprises an anodized aluminum head, as claimed by claim 7

xiv. The plasma processing device (Figure 1; [0010]-[0017]) of claim 1 wherein the hybrid ball-lock device comprises a metallic head, as claimed by claim 8

xv. The plasma processing device (Figure 1; [0010]-[0017]) of claim 6 wherein the head is coated with a ceramic material, as claimed by claim 9

Dornfest teaches numerous materials used as plasma facing parts in plasma processing reactors (column 1). Specifcally, Dornfest teaches materials of silicon facing material for consumption during processing (column 1; lines 42-63), anodized aluminum (column 1; lines 31-40), aluminum metal (column 1, lines 64-65), and ceramic coatings (column 4; lines 5-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Dornfest's plasma process resistant materials in place of Barnes and Halder's materials.

Motivation to use Dornfest's plasma process resistant materials in place of Barnes and Halder's materials is for protecting plasma-exposed surfaces from attack as taught by Dornfest (column 1; lines 10-20).

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Barnes, Michael et al. (US 20020150519 A1) and Halder; Werner et al (US 5845898 A) in view of Moser; Eva Maria (US 6686302 B1). Barnes and Halder are discussed above. Barnes and Halder do not teach the plasma processing device (Figure 1; [0010]-[0017]) of claim 1, wherein the hybrid ball-lock device comprises a CRES fastener housing, as claimed by claim 10. Moser teaches a plasma CVD reactor (10, Figure 1) made of corrosion-resistant steel (column 4; lines 30-38).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Moser's corrosion-resistant steel material in the apparatus of Barnes and Halder.

Motivation to use Moser's corrosion-resistant steel material in the apparatus of Barnes and Halder is for corrosion resistance during plasma processing as taught by Halder (column 4; lines 30-38).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 20050011446 A1

US 20040020429 A1

US 20030029567 A1

US 20020124801 A1

US 20020108711 A1

US 6966562 B1

US 6962664 B2

US 6936135 B2

US 6926803 B2

US 6910441 B2

US 6863784 B2

US 6818096 B2

US 6669811 B2

US 6561523 B1

US 6492774 B1

US 6412437 B1

US 6178919 B1

US 6123775 A

US 6086710 A

US 6019060 A

US 5534751 A

US 5464229 A

US 5433784 A

US 5423936 A

US 5354413 A

US 5332443 A

US 5262029 A

US 5110437 A

US 5013194 A

US 4900202 A

US 4612077 A

US 4577875 A

US 4523985 A

US 4522697 A

SU 906648 B

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (571) 272.1442. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official fax phone number for the 1763 art unit is (703) 872-9306. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (571) 272-1700. If the

examiner can not be reached please contact the examiner's supervisor, Parviz Hassanzadeh, at (571) 272-1435.